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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,291	08/18/2003	Shoichiro Yasunami	Q77024	2020

23373 7590 07/19/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

CHU, JOHN S Y

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,291

Applicant(s)

YASUNAMI ET AL.

Examiner

John S. Chu

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the amendment filed May 4, 2006.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over TAO 6,977,131 B2.

The claimed invention is drawn to the following as seen below:

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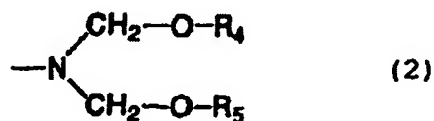
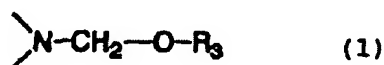
1. (currently amended): A negative resist composition comprising:

(A) an alkali-soluble resin;

(B-1) a cross-linking agent capable of cross-linking with the alkali-soluble resin (A) by the action of an acid, in which the cross-linking agent is a phenol compound containing: at least one phenolic hydroxyl group; in the molecule one or more benzene rings in the molecule; and at least two cross-linking groups bonded to any of the benzene rings, the cross-linking group being a group selected from the group consisting of a hydroxymethyl group, an alkoxymethyl group and an acyloxymethyl group;

(B-2) a cross-linking agent capable of cross-linking with the alkali-soluble resin (A) by the action of an acid, in which the cross-linking agent contains at least two groups selected from the group consisting of the groups represented by the following formula-formulae (1) and ~~represented by the following formula (2);~~ and

(C) a compound capable of generating an acid upon irradiation with an actinic ray or radiation:



wherein R₃ represents a hydrogen atom, an alkyl group, or an alkylcarbonyl group; and R₄ and R₅ each ~~represent~~ represents a hydrogen atom, an alkyl group or an alkylcarbonyl group.

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TAO discloses a radiation sensitive patterning composition wherein the composition comprises at least one crosslinking agent, a polymer capable of reacting with the crosslinking agent, an infrared absorbing compound and a polymer having an acid generating compound.

TAO lacks a working example using the claimed crosslinking agent having the structure of formula (1) or (2), namely a crosslinking agents having an alkoxyated melamine as claimed for (B-2).

Applicants are directed to column 5, lines 23 – column 6, lines 46 which discloses suitable crosslinking agents used as ingredient (B) in TAO wherein the list includes compounds having hydroxymethyl groups, alkoxymethyl groups and vinyl ether groups. Specific compounds include resol resins as well as alkoxymethylated glycouril groups, such as melamines and alkoxyated glycourils. The crosslinking agents as disclosed in TAO can be used alone or in combination of two or more as recited in column 6, line 45-46. This the skilled artisan is clearly motivated to use a combination of the cited crosslinking agents and reasonably expect same or similar results as disclose for excellent curing and sensitivity.

It would have been *prima facie* obvious to one of ordinary skill in the art of photosensitive negative working resist compositions to use two crosslinking agents as disclosed in Example 4 substituting an alkoxymethylated melamine for the terephthaldicarboxaldehyde in Example 4 and reasonably expect same or similar results as recited for excellent sensitivity and curing rate as motivated and directed by the disclosure of TAO in column 6, lines 45 and 46.

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The arguments by applicants have been carefully considered, however are unconvincing as to make the application allowable. The disclosure in TAO clearly motivates the skilled artisan to crosslinking phenol-type compounds as seen in column 6, lines 7-10 wherein specific reference to those compounds are in U.S. Patent no. 5,965,319, columns 31-38 (cited below). The use of more than one crosslinking agent is known and would have been prima facie obvious to the skilled artisan. The rejection is repeated.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. KOBAYASHI (5,965,319) disclose phenol derivative crosslinking agents which meet the now claimed non-resin type crosslinking agent.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-

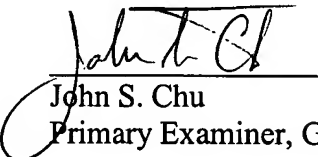
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1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John S. Chu
Primary Examiner, Group 1700

J.Chu
July 15, 2006